

## **RAW SEQUENCE LISTING**

**The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.**

Application Serial Number: 10/645,659A  
Source: 1FW0  
Date Processed by STIC: 3/15/05

# ***ENTERED***



IFWO

## RAW SEQUENCE LISTING

DATE: 03/15/2005

PATENT APPLICATION: US/10/645,659A

TIME: 14:50:50

Input Set : A:\PTO.FG.txt

Output Set: N:\CRF4\03152005\J645659A.raw

5 <110> APPLICANT: Yacoby-Zeevi, Oron  
 6 Peretz, Tuvia  
 7 Miron, Daphna  
 8 Shlomi, Yinon  
 9 Pecker, Iris  
 10 Ayal-Hershkovitz, Maty  
 11 Feinstein, Elena  
 12 Van Gelder, Joel M.  
 13 Vlodavsky, Israel  
 14 Friedmann, Yael  
 17 <120> TITLE OF INVENTION: HEPARANASE ACTIVITY NEUTRALIZING ANTI- HEPARANASE MONOCLONAL  
 18 ANTIBODY AND OTHER ANTI-HEPARANASE ANTIBODIES  
 20 <130> FILE REFERENCE: 26128  
 C--> 22 <140> CURRENT APPLICATION NUMBER: US/10/645,659A  
 C--> 22 <141> CURRENT FILING DATE: 2003-08-22  
 22 <160> NUMBER OF SEQ ID NOS: 16  
 24 <170> SOFTWARE: PatentIn version 3.3  
 26 <210> SEQ ID NO: 1  
 27 <211> LENGTH: 386  
 28 <212> TYPE: PRT  
 29 <213> ORGANISM: Homo sapiens  
 32 <220> FEATURE:  
 33 <221> NAME/KEY: misc\_feature  
 34 <223> OTHER INFORMATION: 45 kDa subunit of mature processed heparanase dimer  
 36 <400> SEQUENCE: 1  
 38 Lys Lys Phe Lys Asn Ser Thr Tyr Ser Arg Ser Ser Val Asp Val Leu  
 39 1 5 10 15  
 42 Tyr Thr Phe Ala Asn Cys Ser Gly Leu Asp Leu Ile Phe Gly Leu Asn  
 43 20 25 30  
 46 Ala Leu Leu Arg Thr Ala Asp Leu Gln Trp Asn Ser Ser Asn Ala Gln  
 47 35 40 45  
 50 Leu Leu Leu Asp Tyr Cys Ser Ser Lys Gly Tyr Asn Ile Ser Trp Glu  
 51 50 55 60  
 54 Leu Gly Asn Glu Pro Asn Ser Phe Leu Lys Lys Ala Asp Ile Phe Ile  
 55 65 70 75 80  
 58 Asn Gly Ser Gln Leu Gly Glu Asp Phe Ile Gln Leu His Lys Leu Leu  
 59 85 90 95  
 62 Arg Lys Ser Thr Phe Lys Asn Ala Lys Leu Tyr Gly Pro Asp Val Gly  
 63 100 105 110  
 66 Gln Pro Arg Arg Lys Thr Ala Lys Met Leu Lys Ser Phe Leu Lys Ala  
 67 115 120 125  
 70 Gly Gly Glu Val Ile Asp Ser Val Thr Trp His His Tyr Tyr Leu Asn  
 71 130 135 140

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Input Set : A:\PTO.FG.txt

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74 Gly Arg Thr Ala Thr Arg Glu Asp Phe Leu Asn Pro Asp Val Leu Asp
75 145 150 155 160
78 Ile Phe Ile Ser Ser Val Gln Lys Val Phe Gln Val Val Glu Ser Thr
79 165 170 175
82 Arg Pro Gly Lys Lys Val Trp Leu Gly Glu Thr Ser Ser Ala Tyr Gly
83 180 185 190
86 Gly Gly Ala Pro Leu Leu Ser Asp Thr Phe Ala Ala Gly Phe Met Trp
87 195 200 205
90 Leu Asp Lys Leu Gly Leu Ser Ala Arg Met Gly Ile Glu Val Val Met
91 210 215 220
94 Arg Gln Val Phe Phe Gly Ala Gly Asn Tyr His Leu Val Asp Glu Asn
95 225 230 235 240
98 Phe Asp Pro Leu Pro Asp Tyr Trp Leu Ser Leu Leu Phe Lys Lys Leu
99 245 250 255
102 Val Gly Thr Lys Val Leu Met Ala Ser Val Gln Gly Ser Lys Arg Arg
103 260 265 270
106 Lys Leu Arg Val Tyr Leu His Cys Thr Asn Thr Asp Asn Pro Arg Tyr
107 275 280 285
110 Lys Glu Gly Asp Leu Thr Leu Tyr Ala Ile Asn Leu His Asn Val Thr
111 290 295 300
114 Lys Tyr Leu Arg Leu Pro Tyr Pro Phe Ser Asn Lys Gln Val Asp Lys
115 305 310 315 320
118 Tyr Leu Leu Arg Pro Leu Gly Pro His Gly Leu Leu Ser Lys Ser Val
119 325 330 335
122 Gln Leu Asn Gly Leu Thr Leu Lys Met Val Asp Asp Gln Thr Leu Pro
123 340 345 350
126 Pro Leu Met Glu Lys Pro Leu Arg Pro Gly Ser Ser Leu Gly Leu Pro
127 355 360 365
130 Ala Phe Ser Tyr Ser Phe Phe Val Ile Arg Asn Ala Lys Val Ala Ala
131 370 375 380
134 Cys Ile
135 385
138 <210> SEQ ID NO: 2
139 <211> LENGTH: 535
140 <212> TYPE: PRT
141 <213> ORGANISM: Mus musculus
143 <400> SEQUENCE: 2
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146 1 5 10 15
149 Ala Gln Gly Ala Pro Ala Gly Thr Ala Pro Thr Asp Asp Val Val Asp
150 20 25 30
153 Leu Glu Phe Tyr Thr Lys Arg Pro Leu Arg Ser Val Ser Pro Ser Phe
154 35 40 45
157 Leu Ser Ile Thr Ile Asp Ala Ser Leu Ala Thr Asp Pro Arg Phe Leu
158 50 55 60
161 Thr Phe Leu Gly Ser Pro Arg Leu Arg Ala Leu Ala Arg Gly Leu Ser
162 65 70 75 80
165 Pro Ala Tyr Leu Arg Phe Gly Gly Thr Lys Thr Asp Phe Leu Ile Phe
166 85 90 95

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Input Set : A:\PTO.FG.txt

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169 Asp Pro Asp Lys Glu Pro Thr Ser Glu Glu Arg Ser Tyr Trp Lys Ser
170      100      105      110
173 Gln Val Asn His Asp Ile Cys Arg Ser Glu Pro Val Ser Ala Ala Val
174      115      120      125
177 Leu Arg Lys Leu Gln Val Glu Trp Pro Phe Gln Glu Leu Leu Leu Leu
178      130      135      140
181 Arg Glu Gln Tyr Gln Lys Glu Phe Lys Asn Ser Thr Tyr Ser Arg Ser
182 145      150      155      160
185 Ser Val Asp Met Leu Tyr Ser Phe Ala Lys Cys Ser Gly Leu Asp Leu
186      165      170      175
189 Ile Phe Gly Leu Asn Ala Leu Leu Arg Thr Pro Asp Leu Arg Trp Asn
190      180      185      190
193 Ser Ser Asn Ala Gln Leu Leu Leu Asp Tyr Cys Ser Ser Lys Gly Tyr
194      195      200      205
197 Asn Ile Ser Trp Glu Leu Gly Asn Glu Pro Asn Ser Phe Trp Lys Lys
198      210      215      220
201 Ala His Ile Leu Ile Asp Gly Leu Gln Leu Gly Glu Asp Phe Val Glu
202 225      230      235      240
205 Leu His Lys Leu Leu Gln Arg Ser Ala Phe Gln Asn Ala Lys Leu Tyr
206      245      250      255
209 Gly Pro Asp Ile Gly Gln Pro Arg Gly Lys Thr Val Lys Leu Leu Arg
210      260      265      270
213 Ser Phe Leu Lys Ala Gly Gly Glu Val Ile Asp Ser Leu Thr Trp His
214      275      280      285
217 His Tyr Tyr Leu Asn Gly Arg Ile Ala Thr Lys Glu Asp Phe Leu Ser
218      290      295      300
221 Ser Asp Ala Leu Asp Thr Phe Ile Leu Ser Val Gln Lys Ile Leu Lys
222 305      310      315      320
225 Val Thr Lys Glu Ile Thr Pro Gly Lys Lys Val Trp Leu Gly Glu Thr
226      325      330      335
229 Ser Ser Ala Tyr Gly Gly Gly Ala Pro Leu Leu Ser Asn Thr Phe Ala
230      340      345      350
233 Ala Gly Phe Met Trp Leu Asp Lys Leu Gly Leu Ser Ala Gln Met Gly
234      355      360      365
237 Ile Glu Val Val Met Arg Gln Val Phe Phe Gly Ala Gly Asn Tyr His
238      370      375      380
241 Leu Val Asp Glu Asn Phe Glu Pro Leu Pro Asp Tyr Trp Leu Ser Leu
242 385      390      395      400
245 Leu Phe Lys Lys Leu Val Gly Pro Arg Val Leu Leu Ser Arg Val Lys
246      405      410      415
249 Gly Pro Asp Arg Ser Lys Leu Arg Val Tyr Leu His Cys Thr Asn Val
250      420      425      430
253 Tyr His Pro Arg Tyr Gln Glu Gly Asp Leu Thr Leu Tyr Val Leu Asn
254      435      440      445
257 Leu His Asn Val Thr Lys His Leu Lys Val Pro Pro Pro Leu Phe Arg
258      450      455      460
261 Lys Pro Val Asp Thr Tyr Leu Leu Lys Pro Ser Gly Pro Asp Gly Leu
262 465      470      475      480
265 Leu Ser Lys Ser Val Gln Leu Asn Gly Gln Ile Leu Lys Met Val Asp

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DATE: 03/15/2005

PATENT APPLICATION: US/10/645,659A

TIME: 14:50:50

Input Set : A:\PTO.FG.txt

Output Set: N:\CRF4\03152005\J645659A.raw

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266          485          490          495
269 Glu Gln Thr Leu Pro Ala Leu Thr Glu Lys Pro Leu Pro Ala Gly Ser
270          500          505          510
273 Ala Leu Ser Leu Pro Ala Phe Ser Tyr Gly Phe Phe Val Ile Arg Asn
274          515          520          525
277 Ala Lys Ile Ala Ala Cys Ile
278          530          535
281 <210> SEQ ID NO: 3
282 <211> LENGTH: 536
283 <212> TYPE: PRT
284 <213> ORGANISM: Rattus norvegicus
286 <400> SEQUENCE: 3
288 Met Leu Arg Pro Leu Leu Leu Leu Trp Leu Trp Gly Arg Leu Arg Ala
289 1          5          10          15
292 Leu Thr Thr Gln Gly Thr Pro Ala Gly Thr Ala Pro Thr Lys Asp Val Val
293          20          25          30
296 Asp Leu Glu Phe Tyr Thr Lys Arg Leu Phe Gln Ser Val Ser Pro Ser
297          35          40          45
300 Phe Leu Ser Ile Thr Ile Asp Ala Ser Leu Ala Thr Asp Pro Arg Phe
301          50          55          60
304 Leu Thr Phe Leu Gly Ser Pro Arg Leu Arg Ala Leu Ala Arg Gly Leu
305 65          70          75          80
308 Ser Pro Ala Tyr Leu Arg Phe Gly Gly Thr Lys Thr Asp Phe Leu Ile
309          85          90          95
312 Phe Asp Pro Asn Lys Glu Pro Thr Ser Glu Glu Arg Ser Tyr Trp Gln
313          100          105          110
316 Ser Gln Asp Asn Asn Asp Ile Cys Gly Ser Glu Arg Val Ser Ala Asp
317          115          120          125
320 Val Leu Arg Lys Leu Gln Met Glu Trp Pro Phe Gln Glu Leu Leu Leu
321          130          135          140
324 Leu Arg Glu Gln Tyr Gln Arg Glu Phe Lys Asn Ser Thr Tyr Ser Arg
325 145          150          155          160
328 Ser Ser Val Asp Met Leu Tyr Ser Phe Ala Lys Cys Ser Arg Leu Asp
329          165          170          175
332 Leu Ile Phe Gly Leu Asn Ala Leu Leu Arg Thr Pro Asp Leu Arg Trp
333          180          185          190
336 Asn Ser Ser Asn Ala Gln Leu Leu Leu Asn Tyr Cys Ser Ser Lys Gly
337          195          200          205
340 Tyr Asn Ile Ser Trp Glu Leu Gly Asn Glu Pro Asn Ser Phe Trp Lys
341          210          215          220
344 Lys Ala Gln Ile Ser Ile Asp Gly Leu Gln Leu Gly Glu Asp Phe Val
345 225          230          235          240
348 Glu Leu His Lys Leu Leu Gln Lys Ser Ala Phe Gln Asn Ala Lys Leu
349          245          250          255
352 Tyr Gly Pro Asp Ile Gly Gln Pro Arg Gly Lys Thr Val Lys Leu Leu
353          260          265          270
356 Arg Ser Phe Leu Lys Ala Gly Gly Glu Val Ile Asp Ser Leu Thr Trp
357          275          280          285
360 His His Tyr Tyr Leu Asn Gly Arg Val Ala Thr Lys Glu Asp Phe Leu

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TIME: 14:50:50

Input Set : A:\PTO.FG.txt

Output Set: N:\CRF4\03152005\J645659A.raw

```

361      290      295      300
364 Ser Ser Asp Val Leu Asp Thr Phe Ile Leu Ser Val Gln Lys Ile Leu
365 305      310      315      320
368 Lys Val Thr Lys Glu Met Thr Pro Gly Lys Lys Val Trp Leu Gly Glu
369      325      330      335
372 Thr Ser Ser Ala Tyr Gly Gly Gly Ala Pro Leu Leu Ser Asn Thr Phe
373      340      345      350
376 Ala Ala Gly Phe Met Trp Leu Asp Lys Leu Gly Leu Ser Ala Gln Leu
377      355      360      365
380 Gly Ile Glu Val Val Met Arg Gln Val Phe Phe Gly Ala Gly Asn Tyr
381      370      375      380
384 His Leu Val Asp Glu Asn Phe Glu Pro Leu Pro Asp Tyr Trp Leu Ser
385 385      390      395      400
388 Leu Leu Phe Lys Lys Leu Val Gly Pro Lys Val Leu Met Ser Arg Val
389      405      410      415
392 Lys Gly Pro Asp Arg Ser Lys Leu Arg Val Tyr Leu His Cys Thr Asn
393      420      425      430
396 Val Tyr His Pro Arg Tyr Arg Glu Gly Asp Leu Thr Leu Tyr Val Leu
397      435      440      445
400 Asn Leu His Asn Val Thr Lys His Leu Lys Leu Pro Pro Pro Met Phe
401      450      455      460
404 Ser Arg Pro Val Asp Lys Tyr Leu Leu Lys Pro Phe Gly Ser Asp Gly
405 465      470      475      480
408 Leu Leu Ser Lys Ser Val Gln Leu Asn Gly Gln Thr Leu Lys Met Val
409      485      490      495
412 Asp Glu Gln Thr Leu Pro Ala Leu Thr Glu Lys Pro Leu Pro Ala Gly
413      500      505      510
416 Ser Ser Leu Ser Val Pro Ala Phe Ser Tyr Gly Phe Phe Val Ile Arg
417      515      520      525
420 Asn Ala Lys Ile Ala Ala Cys Ile
421      530      535
424 <210> SEQ ID NO: 4
425 <211> LENGTH: 543
426 <212> TYPE: PRT
427 <213> ORGANISM: Homo sapiens
429 <400> SEQUENCE: 4
431 Met Leu Leu Arg Ser Lys Pro Ala Leu Pro Pro Pro Leu Met Leu Leu
432 1      5      10      15
435 Leu Leu Gly Pro Leu Gly Pro Leu Ser Pro Gly Ala Leu Pro Arg Pro
436      20      25      30
439 Ala Gln Ala Gln Asp Val Val Asp Leu Asp Phe Phe Thr Gln Glu Pro
440      35      40      45
443 Leu His Leu Val Ser Pro Ser Phe Leu Ser Val Thr Ile Asp Ala Asn
444      50      55      60
447 Leu Ala Thr Asp Pro Arg Phe Leu Ile Leu Leu Gly Ser Pro Lys Leu
448 65      70      75      80
451 Arg Thr Leu Ala Arg Gly Leu Ser Pro Ala Tyr Leu Arg Phe Gly Gly
452      85      90      95
455 Thr Lys Thr Asp Phe Leu Ile Phe Asp Pro Lys Lys Glu Ser Thr Phe

```

RAW SEQUENCE LISTING ERROR SUMMARY  
PATENT APPLICATION: US/10/645,659A

DATE: 03/15/2005  
TIME: 14:50:51

Input Set : A:\PTO.FG.txt  
Output Set: N:\CRF4\03152005\J645659A.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:12; Xaa Pos. 1,2,3,4,5,6,7,8

Seq#:13; Xaa Pos. 1,2,3,4,5,6

**VERIFICATION SUMMARY**

DATE: 03/15/2005

PATENT APPLICATION: US/10/645,659A

TIME: 14:50:51

Input Set : A:\PTO.FG.txt

Output Set: N:\CRF4\03152005\J645659A.raw

L:22 M:270 C: Current Application Number differs, Replaced Current Application No

L:22 M:271 C: Current Filing Date differs, Replaced Current Filing Date

L:847 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12 after pos.:0

L:887 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13 after pos.:0